

Instructions for installing the Best Dual Sport Bikes fuel programmer for the 2017-2020 KTM 500 EXC and 2017-2020 Husqvarna FE 501. This is a fuel tuner that stays on your bike. It only fits the models mentioned here. We have spent a lot of time getting the correct software written for it, so that it will provide you with the optimum amount of fuel and greatest power output, for various stages of modification for your 500.

It is designed for your TPS setting to be either how it came from the factory, which is in the range of .55-.60. If you have moved your TPS setting, please re-adjust, as the bike may be too rich using these settings.

Since the unit is designed to stay on the bike, ultimately this little pocket behind the gas tank is a great place for it to live. You can have the seat off while the bike is idling and pull it out to make changes with the buttons if you need to and then fit back in its hole.

The 2 clips of the unit plug in between the stock injector clip and the stock injector. Unplug your clip from the injector and plug into the one coming from the unit.

Now just plug the other 2 together and you are done with this part. Run the wires inside the frame rails so they are contained.

The last step in the installation is to just secure the black wire to the battery ground cable.

You should be able to turn the key on and if all is hooked up correctly, you will hear the unit turn on and green lights will flash back and forth across the screen.



With the bike idling, or just the key on, there should be a green light on in one of the holes on the screen. The programmer has 6 different aspects that can be programmed.

When you push the “mode” button in the center, you’ll notice that the lights that come on the screen change colors. First GREEN lights come on, then when you push the mode button again, to switch to the next mode, yellow lights come on, then red, then green-blue and so on. Then back to green.

This is how you switch to various areas, which can change the fueling.

Two very important things to know at this point are:

1. We’ve spent a lot of time with the dyno and the Air/Fuel ration meter, and real world riding, to make sure the base software in the unit is in the perfect starting position to give you the best results.
2. The guidelines we will give you for settings are proven winners for the various stages of modification we provide. Which means unless you have things like dyno’s and are/fuel meters at your disposal, it is best just to put the buttons where we suggest.

At this point **if your bike is stock, or if you have just removed / disable the emissions and opened up your exhaust**, either with our power end cap or another slip on muffler, you will want to LEAVE the lights in the positions they are. **You do not need to do anything.**

If your bike is 2nd stage of modification, which would be the opening up of the intake tract, by the removal of the reeds in there, then you will definitely need more fuel at this point. Please adjust the fueling by following the steps below

1. With the bike on or idling, push the mode button and the green lights will show up. Before they go away, push the minus button until the green light is in position 3.

Pushing the minus button actually leans the bike out in this range. The green button signifies the fuel it gets when cruising. This is basically easy throttle movements below 1/2 throttle. Even if you are going down the highway in 6th gear at 65 mph. If your throttle changes are slow and you are below 1/2 throttle, you are in the green zone. By opening the intake and using our Power Intake Tube, the air moves so much easier, it actually requires less fuel now, in this zone.

2. Now push the “mode” button again. This moves you from the Green light mode, which is fuel for the “cruise” mode, into the Yellow light mode. The Yellow light means you are on the gas and accelerating when you see them on the unit.

When you get the unit, the yellow lights will be lit up on the 4 and 5 position. This means it’s set on 4 1/2. You will want to push the “plus” two times. You will see the lights move to positions 5 and 6. This means you richened up the bike. Now you have added fuel in this range to compensate for the extra air added by opening up the intake tract.





Now push the "mode" button again and it takes you to the red lights. You will want to push the "plus" button until lights 5 and 6 are both lit up. When you move the lights to the right, with the plus button, you add more fuel. This will set the air/fuel ratio perfectly, for when you have the throttle wide open and the bike get's into the high rpm's.

Push the "mode" button again, and you enter the last 3 modes, which are the choosing of when the first 3 zones turn on. When you get into the "switch on" modes, you'll get a blue light on the far right, to let you know you are in these modes.

The combo of the green lights and blue light, let you know you are in the mode that controls "accelerator pump strength"

The further you move the green led to the right in this mode, the more fuel you'll get when the accelerator pump turns on. The further you move to the left, the less fuel you'll get. Some people add fuel if getting too many flameouts or if in deep sand. You can use less fuel too to get better mileage. The range of 4 to 5 works well for most people.



Now you push the "mode" button again and the lights switch to yellow and blue. Here you want to push the "minus" button, until the yellow light is on #3.

What this does, is lower the amount of time it takes for the richer, yellow zone to turn on. When the green light turns off and the yellow turns on, extra fuel is added. What we did, was turn on the yellow zone sooner, which adds more fuel sooner, when you get on the gas.

The last "mode" to program, is the red and blue lights. Even though you can't see the blue light in this pic, you will want to push the "minus" button, until the red light is in the #2 spot.

Just like the yellow switch point, moving the light down to a lower number, makes that zone turn on sooner, when hard on the gas, or at throttle openings closer to wide open. This will make sure you have all the fuel you need now, for the open exhaust and intake, when at the higher throttle openings.



The final notes on tuning with this programmer is, when in the Green, Yellow or Red modes, which are modes 1, 2 and 3. Pushing the plus button and raising the number of where the light is flashing, adds fuel. And pushing the minus button takes fuel away.

BestDualSportBikes fuel programmer instruction cheat sheet

2017 - 19 500 / 501 | For opened exhaust and intake (reeds out of air boot) with our intake tube

For more mileage conscious

Green 3, Yellow 5.5 , Red 5.5. Green blue 4 , Yellow blue 3, Red blue 2

For more response and power

Green 4, Yellow 6 , Red 6 , Green blue 4, Yellow blue 2, Red blue 2

2017 -19 250 /350 | For open exhaust and intake and using our intake tube

Green 4, Yellow 2, Red 2, Green blue 4, Yellow blue 2, Red blue 4.5

2017 - 19 450 EXC-F and FE-S | For open exhaust and intake and using our intake tube

Green 3 , Yellow 5, Red 5 , Green blue 4 , Yellow blue 2 , Red blue 2

2020 USA / CANADA spec bikes | for open exhaust and intake using our intake tube

500 / 501 - Green 4.5, Yellow 4, Red 6, Green blue 4, Yellow blue 2, Red blue 2

350 - Green 4, Yellow 7, Red 7, Green blue 4, Yellow blue 2 , red blue 2

For Euro spec and Aus spec bikes, we don't get to test with them specifically , so just take feedback from happy customers. So basically find your bike on this list from above , and start settings 1-2 settings leaner than the USA spec settings. You can play from there